Regional Features of the System of Specially Protected Areas in the Sakha Republic (Yakutia)

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Abstract—The network of specially protected areas in the Sakha Republic (Yakutia) in 1993 included two reserves and 18 zakazniks totaling nearly 10.3 million ha. Following a resolution by President M. Nikolayev, work on the arrangement of the specially protected areas system accelerated, and at present, Sakha has two reserves, 44 resource reserves, four national nature parks, 26 protected landscapes, 41 reserve lands, and a number of nature monuments. They embrace over 14 percent of the Republic’s area. Even now, we may see the outlines of a specially protected areas system that is well underway. It will consist of seven subsystems and should result in the conservation of biological diversity and the environment of plant and animals. This paper describes the Prilena subsystem as an example.

Through the efforts of several generations of scientists and conservationists, Russia established a unique network of reserves and protected areas called zakazniks (Shtilmark 1984). The purposes of these reserves are to preserve and increase the populations of some rare and endangered animal and plant species and to preserve the unique landscapes and ecosystem types in all regions of the country. But this network is not distributed uniformly. Until recently, some regions, including the Far North and North East Russia, had a limited number of specially protected areas. In the north of Siberia and the Far East, reserves were established only after the mid 1970’s (Syroyechkovsky and Shtilmark 1983). These are the Marya Sosva, Yugansky, Bolsboi Taimyr, Central-Siberian, Olekminsky, Lena Delta, Wrangel Island, and Magadansky reserves. During this time, many zakazniks, protected landscape sites, and monuments of nature were established in the Russian north. The first national parks also appeared. Despite this, the northeast of the country and the Sakha Republic (Yakutia) remained a region with an insufficient number of specially protected areas until the mid 1990’s.

A Protected Area System in Sakha

Sakha occupies a vast territory covering 3.1 million km², with different landscapes distributed within its borders. The Arctic desert areas of the Arctic Ocean islands, endless tundra, northern taiga, great mountain systems, and steppe sites all occur in Yakutia. It is a land of powerful rivers and many lakes; it is the country of continuous permafrost. Environmental diversity results in a relative richness of plant and animal species, and an abundance of endemic species. Yakutia possesses valuable mineral treasures—diamonds, gold, tin, mica, oil, and gas. In past decades, it supplied industry with raw mineral material, and destructive, exhaustive nature use and management resulted in adverse environmental change.

In response to these conditions, President Mikhail Nikolayev (Sakha) initiated a state ecological policy for the Sakha Republic (Yakutia) (Alexeyev 1996; Nikolayev 1996). One of the most significant results of the policy is establishment of a system of specially protected areas.

(For many years, the author of this paper was engaged in the problems surrounding the development of a network of specially protected sites. In 1986, the Proposal for the Russian Soviet Federative Socialist Republic GosPlan, “General Outline for the Establishment of Specially Protected Territories in the YASSR,” was prepared in collaboration with V. I. Perfilyev. In 1990, the manuscript “The System of Specially Protected Territories in the YASSR” was prepared for the YASSR GosPlan and with the participation of V. I. Perfilyev and A. L. Popov. Later, the SR(Ya) Ministry of Nature Protection commissioned a scientific report, “The Development of the System of Specially Protected Areas in the Sakha Republic (Yakutia) for the Nearest and Far Challenge,” written with N. I. Germogenov in 1993.)

By January 1, 1993, two reserves with a total area of 2,280,000 ha and 18 zakazniks occupying 8,760,000 ha were established in the Republic. These specially protected areas were not sufficient to solve the environmental problems related to biodiversity preservation and the conservation of both human and animal habitats. Therefore, the SR(Ya) Ministry of Nature Protection, through its regional branches and the collaboration of scientists and the ecological community, prepared a list of specific sites proposed for protection.

A new phase of establishment of protected areas began since Resolution No. 837 of the Sakha President, “The Action on the Development of Specially Protected Areas,” was issued on August 16, 1994. On the same day, President M. E. Nikolayev signed a second resolution,” On Institution of Particular Regime for Use and Conservation of Unique Lakes in the Sakha Republic (Yakutia),” that ensured special protection for 25 important lakes.

Some time later, the Sakha government approved “The Statement on Reserved Areas in the Sakha Republic (Yakutia).” Finally, in 1996, the Sakha State Assembly...
(called Il Tumen) adopted the law related to specially protected areas. These legislative acts determined the main types of protected territories and the course of development of the specially protected areas system in the Republic. Recognizing the enormous ecological challenges of the world, the government intends that the specially protected areas conserve not only rare and disappearing species, ecosystem types, unique landscapes, and natural monuments, but also the conservation of an environment where plants, animals, and man himself can live. That is why President Nikolayev and the Sakha government consider it necessary to put 20 percent of the Republic’s lands (600,000 km²) under strict control as protected areas by the year 2000. The specially protected areas system, if expeditiously designated, may create the basis for a future system of specially protected territories, providing efficient conservation of plant and animal habitats, preservation of biological diversity, maintenance of ecological balance, and stable development of the human community (Solomonov and Germogenov 1994).

Given the widespread extent of the specially protected areas network, it is only natural that the system permit some human activity. The Sakha Republic (Yakutia), based on the federal law governing specially protected areas, also has established reserves that totally exclude any human economic activity, its own regional variation of specially protected areas management (Alexeyev and Lazarev 1997). These correspond to categories generally accepted by the IUCN and include resource rezervats, national nature parks, protected landscapes, and nature monuments. Table 1 shows that the number of reserves will remain constant until 2000, while the other four specially protected areas types will grow. It is anticipated that both Yakut reserves—Lena Delta and Olekminsky—will soon adopt the status of biosphere reserves. Zones of strict control and of traditional nature use are expanding now, and the Lena-Delta reserve has already been enlarged. According to SR(Ya) governmental decision No. 337, released on August 12, 1996, a large Lena Delta rezervat of 5,932,000 ha should be established. The rezervat boundaries would join these of the Lena Delta State Reserve both inside and outside the limits of the river delta: in the Lena downstreams, near the foothills of the Kharaulakh mountains, and reaching the New Siberian Islands.

From 1995 to 1997, the first national parks of Yakutia—Lena Pillars, Momsky, Ust-Viluisky, and Sinyaya—were established and placed under the jurisdiction of the Republic. The SR(Ya) law promoting the conservation of natural sites through the designation of national nature parks states the following:

National nature parks include territories and complexes particularly defended by law and customs of the local North peoples as well as typical and rare landscapes that are of ecological, educational, recreational and scientific importance; that are habitats for wild plant and animal communities; places of entertainment; places for performing ceremonies, customs and traditional religious beliefs of local North peoples; tourism; and excursions promoting the ecological education of citizens.

The four national parks of Yakutia are open to the public and are established on lands that have unique landscapes and interesting nature features distinguished by unusual beauty and esthetic or recreational value, and are attractive to the tourism industry. For example, many sites in Lena Pillars National Park contain wonderful shore rocks taking the forms of mysterious castles, minarets, and forts. There are remains of the most ancient organisms—archiocites and trilobites, that were the residents of the Cambrian sea; Earth evolution has left its evidence for over 500 million years here. Along the river’s steep banks, the relics of mammoth fauna bones—mammoths, bison, ancient horses, elk and deer—may be found. Lena Pillars National Park is the only place on Earth where a local rare plant species, Redovskia sophiifolia, may be found, and there are other species of rare and disappearing plants and animals in the park. Commercial fish species, birds, and mammals are well represented here, too.

Resource rezervats have become the main form of specially protected areas in the Republic. Rezervats are set up for: (a) preservation of natural resources of the given area for future generations by preventing or impeding and scientifically regulating economic activity; (b) providing conditions necessary to conserve species populations and species groups or physical objects of nature; and (c) preservation of the environment of indigenous North peoples and maintenance of the optimal conditions for the continued development of their culture, especially their traditional types of economic activity and lifestyle.

There are closed zones of absolute rest in the national nature parks and in resource rezervats where any kind of human activity is banned. Moreover, these zones protect “sacred” places containing objects of people’s cult and worship where traditional rituals are usually held.

Closed zones and sacred places are particular kinds of reserves. Other zones of restricted and recreational activity are designated in the national nature parks, too, for

<table>
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<th>Year</th>
<th>Reserves number</th>
<th>Resource rezervat total area</th>
<th>National nature parks number</th>
<th>Protected landscapes total area</th>
<th>Nature monuments number</th>
<th>Reserve lands total area</th>
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<td>7365.0</td>
<td>4</td>
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<td>22</td>
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*15 legalized by Sakha government. Proposed -152.
example, zones for keeping and breeding rare and disappearing species and protected historical and archeological zones. In the natural resource rezervats, zones for licensed harvest of biological stocks, zones of seasonal restrictions on natural resource extraction, and zones for traditional nature use are distinguished. Resource rezervats have been established in previously existing zakazniks of Russian and Republican designation, as well as in new areas.

Figure 1 illustrates the Kytalyk rezervat zoning. A considerable part of Kytalyk is given to the zone of absolute seasonal rest. In the spring-summer-autumn seasons within this area, all economic activity is prohibited. Both parts of this zone are sites of concentration and nesting of rare and disappearing birds, especially the Siberian crane (sterkh). Between the two parts of this zone, there is an area for restricted traditional activity—licensed wild reindeer bagging and traditional nature use. South of the Kytalyk basic part sits the “sacred land” of Berelyakh—a place of indigenous people’s worship and the mammoth “cemetery.” In the north, there is a reserve zone that comprises the nesting grounds of the spectacled eider, together with some other rare bird species in the Indigirka River delta and in the coastal tundra west and east of the Indigirka.

The RS(Ya) law on specially protected areas introduced the notion of protected landscapes:

...parts of lands and water areas to protect natural landscapes (river valleys, alasess, lakes, forest massifs, mountains) that are considered sacred by indigenous communities characterized by harmonious interaction between man and land and that may provide opportunities to serve as tourist and recreational destinations and to support regulated economic activity on their area.

Twenty-five unique lakes of Yakutia and their adjoining shore lines are now protected under this new category of specially protected areas. Unlike the other forms of specially protected areas, protected landscapes are designated without withdrawal of land, water, and other resources. Nature monuments are unique objects of nature having great ecological, scientific, historical, and cultural importance. In Yakutia, nature monuments are represented by geological, hydrological, biological, and complex objects. Of the 152 proposed nature monuments in Yakutia, 15 have been officially designated.

Figure 2 indicates specially protected areas territorial allocation by natural zone. Most specially protected area units are in mid-taiga and tundra zones. Their number is
very small in the north taiga zone, particularly in the northwestern and Yana-Indigirka regions, as this area was mostly developed by the mining industry. By 2000, it is anticipated that new specially protected areas will be added in these regions to rectify the shortage. Toward this end, the Republic has already identified many reserve lands for future designation as resource rezervats, national parks, protected landscapes, and nature monuments.

An Interim System

In the meantime, an interim system of specially protected areas of the Republic comprising seven subsystems will be recognized. The subsystems are: Arctic, Kolyma, Yana-Indigirka, Central-Yakutia, Prilena, West Yakutia, and South Yakutia. Each of these subsystems will encompass an independent ecological and economic region, and provide for the conservation of the environment within the region.

As an example, consider the Prilena subsystem, one of the largest. It encompasses a significant part of the Lena River basin extending from the Republic’s southwestern borders along the Lena River valley to its mouth. A number of different ecosystems exist within this area: arctic and sub-arctic tundras, northern parts with scarce forests, north-taiga and mid-taiga forests, relic steppes, mountains of North and South Yakutia, unique Yakut alasses (meadow depressions of thermokarst origin), and tukulans (large spots containing moving sands that look like northern cold deserts). This great river valley, with plenty of meadows and wetlands, extends through the entire region and is known as an ecological route through which many plants, animals, and their associations migrate northwards.

In the lower Lena, is Tit-Ary Island, the most northern point where larch trees grow. Over 190,000 lakes are home to 42 fish species, including unique forms of the family Salmonidae. Prilena is the flyway for many water birds during spring and autumn migration. Lakes of the Lena River valley and its neighboring Central-Yakutian lowland provide staging posts and rest areas for migrating birds, as well as nesting sites for resident species.

Sixty mammal species, or 90 percent of all Yakutian teriofauna, inhabit the Prilena. All game species also occur here. Toward the east and north is a trend of impoverishment of plant and animal species composition due to latitudinal-azonal changes in environmental conditions. It is clearly seen in plants, invertebrate animals, amphibians, and reptiles, but is less apparent in fish, birds, and mammals.

The Lena River valley and its adjoining parts are mostly mastered by man in Yakutia. Here, such towns as Yakutsk, Lensk, Olekminsk, and Pokrovsk emerged, and industrial
and rural settlements of Mokhsogollokh, Sangar, Zhigansk, Kyusyur, and Tiksi were built. The lands of the valley are used for farming. During recent decades, the area of relic steppes and floodplain spruce woods sharply decreased, meadow productivity declined by one-half to two-thirds, and the terrestrial vertebrate fauna greatly changed within the limits of the valley. During the 1940’s, the first sharp ecological decline took place in the Lena River Delta: populations of valuable game fish, such as, muksun, least cisco, inconnu, Arctic cisco, were undermined. Stocks of these fish are only now recovering. This example illustrates the fact that these northern ecosystems are extremely fragile; they are easily destroyed and difficult to restore. The same is true for land ecosystems. On Tit-Ary Island also in the 1940’s, workers at the fish processing plant cut the undersized larch trees, and this northernmost larch wood has still not re-established.

It is only natural that the new network of specially protected areas of the Republic should originate in Prilen. The first state reserves and zakazniks were established here. They are the Lena-Delta and Olekminsky reserves and the Ust-Viluisky, Belozersky, Kharialakh, Dzerono, Pilka fauna, and complex zakazniks. At present there are two state reserves, three national parks, and about 20 resource rezervats and protected landscapes. In addition, about 10 reserve lands are designated to become future resource rezervats and protected areas. Among them are such large areas as: Muna (approximately 1,000,000 ha), Kerikte (300,000 ha), and Khamra (270,000 ha). In the 4 years that have passed since the President’s Resolution was released, the number of specially protected areas in various categories has increased three-fold. It appears that the President’s will is being implemented.

The Prilena network of the specially protected areas will ensure the conservation of several tracts containing relic steppes with their peculiar flora and fauna, the improvement of flood pasture yields (thanks to the conservation and use of the most appreciable fodder grasses), the preservation of remaining spruce forests growing in the valley and the plant and animal communities associated with this type of forest, the conservation of island pine and birch forest in the Lena River basin, and the protection of wetlands that serve as staging stops for migrating birds and reproduction sites of fish, birds, and mammals, particularly game species. The Prilena specially protected areas will be the place for recovering and raising rare and endangered species of plants, and restocking appreciable medicinal herbs. Simultaneously, the specially protected areas network will become the basis for establishing guided ecotourism and the center of ecological education and training of citizens. Thus, the specially protected areas system underway in the Prilena region will become one of the important subsystems of the general Sakha specially protected areas system, focus on ensuring biodiversity conservation, and serve as the fundamen of wildlife. Other subsystem units of the general specially protected areas network in Arctic Yakutia, the Kolyma River basin, Yana-Indigirka, West Yakutian and the South Yakutian industrial regions, taken together, will contribute to the conservation of significant components of the environment in the Sakha Republic (Yakutia). This specially protected areas system joins the Russian and circumpolar planetary systems of environmental conservation while allowing for regional distinctions of nature and traditions of peoples in North East Siberia.

References


